What is claimed is:

1: A method comprising:

associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

2: The method of claim 1, wherein determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors includes:

determining if the interrupt is associated with a virtual machine identifier; and

if so, determining if the virtual machine identifier is associated with one or more processors.

3: The method of claim 2, further comprising:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor.

4: The method of claim 1, further comprising:

if the interrupt is associated with a virtual machine identifier that is currently not

associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode and reported as executing the lowest priority task.

5: The method of claim 4, wherein associating a virtual machine with a processor utilizing a virtual machine identifier includes:

receiving a communication from the processor that includes a virtual machine identifier; and

storing a processor identifier and the virtual machine identifier in a participant table.

6: The method of claim 5, wherein receiving a communication from the processor includes utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

7: The method of claim 5, wherein receiving a communication from the processor that includes a virtual machine identifier occurs when the processor either initiates or resumes execution of a virtual machine indicated by the virtual machine identifier.

8: The method of claim 7, wherein a virtual control block (VCB)

specifies a virtual machine identifier for each virtual machine, and

stores the virtual machine identifier in an executing processor utilizing a virtual machine control block.

9: The method of claim 5, wherein associating a virtual machine with a processor utilizing a virtual machine identifier includes:

receiving a communication from the processor that includes information that denotes whether or not the processor is running in shared or dedicated mode; and

storing the processor mode information in a participant table.

10: The method of claim 1, wherein routing the interrupt to the matching processor(s) includes:

if the virtual machine identifier is associated with multiple processors, routing the interrupt to the associated processor with the lowest task priority.

11: The method of claim 1, further including:

associating an interrupt generating device that is exclusively assigned to a virtual machine with the virtual machine's identifier.

12: The method of claim 11, wherein associating an interrupt generating device includes storing the virtual machine identifier in a memory element within the device so that any interrupts generated by the device may include the virtual machine identifier.

13: The method of claim 11, wherein associating an interrupt generating device includes:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and

wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

14: An article comprising:

a machine accessible medium having a plurality of machine accessible instructions, wherein when the instructions are executed, the instructions provide for:

associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

15: The article of claim 14, wherein the instructions providing for determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors includes instructions providing for:

determining if the interrupt is associated with a virtual machine identifier; and

if so, determining if the virtual machine identifier is associated with one or more processors.

16: The article of claim 15, further comprising instructions providing for:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor.

17: The article of claim 14, further comprising instructions providing for:

if the interrupt is not associated with a virtual machine identifier that is currently associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode and reported as executing the lowest priority task.

18: The article of claim 17, wherein the instructions providing for associating a virtual machine with a processor utilizing a virtual machine identifier includes instructions providing for:

receiving a communication from the processor that includes a virtual machine identifier; and

storing a processor identifier and the virtual machine identifier in a participant table.

19: The article of claim 18, wherein the instructions providing for receiving a communication from the processor includes instructions providing for utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

20: The article of claim 18, wherein the instructions providing for receiving a communication from the processor that includes a virtual machine identifier occurs when the processor either initiates or resumes execution of a virtual machine indicated by the virtual machine identifier.

21: The article of claim 20, further including instructions providing for a virtual control block (VCB)

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block.

22: The article of claim 18, wherein the instructions providing for associating a virtual machine with a processor utilizing a virtual machine identifier includes instructions providing for:

receiving a communication from the processor that includes information that denotes whether or not the processor is running in shared or dedicated mode; and

storing the processor mode information in a participant table.

23: The article of claim 14, wherein the instructions providing for routing the interrupt to the matching processor(s) includes instructions providing for:

if the virtual machine identifier is associated with multiple processors, routing the interrupt to the associated processor with the lowest task priority.

24: The article of claim 14, further including instructions providing for:

associating an interrupt generating device that is exclusively assigned to a virtual machine with the virtual machine's identifier.

25: The article of claim 24, wherein the instructions providing for associating an interrupt generating device includes instructions providing for storing the virtual machine identifier in a memory element within the device so that any interrupts generated by the device may include the virtual machine identifier.

26: The article of claim 14, wherein the instructions providing for associating an interrupt generating device includes instructions providing for:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and

wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

27: An apparatus comprising:

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts.

28: The apparatus of claim 27, wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing.

29: The apparatus of claim 28, wherein the integrated circuit is capable of associating each processor with a virtual machine identifier, and the associations are stored in a participant table.

30: The apparatus of claim 29, wherein the integrated circuit is further capable of determining whether each processor is running in shared or dedicated mode.

31: The apparatus of claim 27, wherein the integrated circuit is capable of:

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

32: The apparatus of claim 31, wherein the integrated circuit is capable of utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

33: The apparatus of claim 31, wherein the integrated circuit is further capable of:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor.

34: The apparatus of claim 33, further including a virtual control block (VCB) that is capable of:

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block.

35: The apparatus of claim 33, wherein the integrated circuit is capable of:

if the interrupt is associated with a virtual machine identifier that is not currently associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode reported as executing the lowest priority task.

36: The apparatus of claim 31, wherein the integrated circuit is capable of:

if the virtual machine identifier is associated with multiple processors, routing the interrupt to the associated processor with the lowest task priority.

37: The apparatus of claim 27, wherein the each processor includes a memory element to store the virtual machine identifier of the virtual machine that is currently being executed.

38: The apparatus of claim 28, wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing when the processor either initiates or resumes execution of the virtual machine.

39: The apparatus of claim 28, wherein the integrated circuit is capable of associating an interrupt generating device by:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and

wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

40: A system comprising:

a plurality of processors to execute a plurality of virtual machines having virtual

machine identifiers;

at least one interrupt generating device to transmit an interrupt having a virtual machine identifier; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts.

41: The system of claim 40, wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing.

42: The system of claim 41, wherein the integrated circuit is capable of associating each processor with a virtual machine identifier, and the associations are stored in a participant table.

43: The system of claim 40, wherein the integrated circuit is further capable of determining whether each processor is running in shared or dedicated mode.

44: The system of claim 40, wherein the integrated circuit is capable of:

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is

associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

45: The system of claim 44, wherein the integrated circuit is capable of utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

46: The system of claim 44, wherein the integrated circuit is further capable of:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor.

47: The system of claim 46, further including a virtual control block (VCB) that is capable of:

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block.

48: The system of claim 46, wherein the integrated circuit is capable of:

if the interrupt is associated with a virtual machine identifier that is not currently associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode reported as executing the lowest priority task.

49: The system of claim 44, wherein the integrated circuit is capable of:

if the virtual machine identifier is associated with multiple processors, routing the interrupt to the associated processor with the lowest task priority.

50: The system of claim 40, wherein the each processor includes a memory element to store the virtual machine identifier of the virtual machine that is currently being executed.

51: The system of claim 40, wherein the interrupt generating device is capable of:

being exclusively used by a single virtual machine;

receiving the virtual machine identifier of the virtual machine that has exclusive use of the device; and

the interrupt generating device includes a memory element to store the virtual machine identifier.

52: The system of claim 41, wherein the integrated circuit is capable of associating an interrupt generating device by:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts

from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and

wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.